REMARKS

In the Office Action, the Examiner rejected the claims under 35 USC §103. The rejections are fully traversed below. The claims have been amended to correct minor informalities and to further clarify the subject matter regarded as the invention. Claim 49-52 has been added. Claims 2 and 6 have been cancelled. Claims 1, 3, 5, 7-10, 12-27, 29-37, and 39-52 are now pending.

Reconsideration of the application is respectfully requested based on the following remarks.

REJECTION OF CLAIMS UNDER 35 USC §103

In the Office Action, the Examiner has rejected claims 1-3, 5-10, 12-16, 21-27, 29, 31-37, 39, and 42-48 under 35 USC §103 as being unpatentable over Madour et al, U.S. Patent No. 6,970,693, ('Madour1' hereinafter) in view of Madour et al, U.S. Publication No. 2002/0021681, ('Madour2' hereinafter) and further in view of Grabelsky, U.S. Publication No. 2004/0003046, ('Grabelsky' hereinafter). This rejection is fully traversed below.

Claim 1 recites:

In a PDSN, a method of releasing resources, comprising:

sending an access request message to a first AAA server for authentication of a node;

receiving an access accept message from the first AAA server;

establishing a Mobile IP session as a Foreign Agent for the node when an access accept message is received from the first AAA server;

storing information associated with the node in resources associated with the PDSN;

receiving a disconnect request message; and

releasing the resources when the disconnect request message is received;

wherein the resources comprise memory and the information comprises PPP information associated with a PPP session.

Madour does disclose a system including a Packet Data Serving Node (PDSN). However, Applicant respectfully submits that Madour fails to disclose a PDSN that performs each of the claimed steps. More particularly, Applicant respectfully submits that Madour

fails to disclose or suggest "releasing the resources when the disconnect request message is received."

In the rejection, the Examiner asserts that Madour1 discloses a PDSN receiving a disconnect request message, citing FIG. 5, item 526. However, it is important to note that FIG. 5 only illustrates steps performed by the Home Agent (HA) and Home AAA server (HAAA). FIG. 5 does not disclose steps performed by the PDSN. While the Examiner cites item 526 of FIG. 5, this item merely illustrates "Allocation of Quota 2; Account is Depleted," wherein item 526 is shown in association with the HAAA. There is no indication that the HAAA sends a disconnect request message to the PDSN at step 526, as suggested by the Examiner. In no manner does Madour1 show or suggest the receiving of a disconnect request message or, more particularly, the receiving of a disconnect request message by a PDSN. Accordingly, Applicant respectfully submits that Madour1 fails to disclose or suggest a PDSN receiving a disconnect request message.

The Examiner cites Madour1, col. 4, lines 17-30, which indicate that "the data session can be stopped at the HA only, while the serving PDSN continue to perform off-line accounting for IP traffic that is blocked by the HA." The Examiner asserts that Madour1 discloses resource management. However, nothing in this section discloses or suggests releasing resources when a disconnect request message is received. In fact, Madour1 clearly indicates that even when the data session has been stopped, the PDSN continues to perform accounting for IP traffic that is blocked by the HA. If the PDSN were to continue to perform accounting for IP traffic that is blocked (e.g., where the data session has been stopped), it is clear that the PDSN would not release resources associated with the data session. Thus, Madour1 teaches away from releasing resources when a disconnect request message is received.

The Examiner admits that Madour1 fails to disclose releasing the resources when the disconnect request message is received, wherein the resources comprise memory and the information comprises PPP information associated with a PPP session.

The Examiner asserts that Madour2 discloses a PDSN that releases the resources when the disconnect request message is received. Unfortunately, the Examiner did not cite specific portions of Madour2. In the review of Madour2, Applicant noted that the Abstract indicates that a Target PDSN sends a message to the Serving PDSN to notify it that it can release all resources related to the MS. However, Madour2 fails to disclose or suggest that a disconnect request message is received by the PDSN, as claimed. Moreover, such a disconnect request message is not received from a AAA server, as is recited in various claims, as amended.

The Examiner admits that Madour1 and Madour2 fail to disclose wherein the resources comprise memory and the information comprises PPP information associated with a PPP session. The Examiner seeks to cure the deficiencies of Madour1 and Madour2 with Grabelsky, citing paragraph [0093].

Applicant respectfully submits that Grabelsky fails to cure the deficiencies of Madour. While paragraphs [0092] and [0093] do discuss a PPP session, Grabelsky fails to disclose or suggest the storing of information including PPP information associated with a PPP session in resources (e.g., memory), where those resources are released when a disconnect request message is received. It is also important to note that neither of the cited references, separately or in combination, discloses or suggests the lack of resource management at the PDSN in association with PPP resources.

The Examiner cites KSR, asserting that it would have yielded predictable results to implement PPP in the disclosure of Madour in use as a protocol in Mobile IP. Even it were

obvious to implement PPP in a Mobile IP network, nothing in the cited references discloses or suggests the lack of resource management at the PDSN, or the need to release resources associated with a PPP session.

As described in the Background section of Applicant's specification:

"As the mobile node moves from one foreign domain serviced by a PDSN (source PDSN), shown here as PDSN 204, to another PDSN (target PDSN), shown here as PDSN 206, during an inter-PDSN hand-off, a new PPP session is established at the target PDSN. Specifically, when the node moves or the Mobile Node 216 roams such that the PDSN 206 initiates a second PPP session, PPP state information is stored at the target PDSN 206. Thus, the first PDSN 204 no longer needs to store the PPP state information. Unfortunately, the first PDSN 204 does not release its PPP resources until the PPP session timer has expired. Since the timer may be set to a long value, for example it may expire as much as several hours after the node or mobile node has moved to another PDSN, the PPP state information may be unnecessarily stored by the first PDSN 204 during this time. Maintaining these PPP sessions and associated resources may consume valuable resources at the source PDSN that could otherwise be used to support additional mobile nodes. Since the resources available at the PDSN 204 are limited, this reduces the number of sessions the PDSN 204 can handle."

It is clear from the Background section of Applicant's specification that PPP resources are typically not released until a PPP session timer has expired. Nothing in the cited references discloses or suggests a problem associated with waiting for the PPP session timer to expire in order to release these resources. Moreover, nothing in the cited references discloses or suggests releasing these resources when a disconnect message is received such that the resources are released prior to or independent of the expiration of a PPP session timer, as recited in various pending claims.

The cited references, separately or in combination, fail to disclose or suggest the

shortcomings of the prior art identified in the Background section of Applicant's specification. Similarly, the cited references, separately or in combination, discloses or suggests a solution to this problem. It is also important to note that the combination of the cited references would fail to operate as claimed. Accordingly, Applicant respectfully submits that the pending claims are patentable over the cited references.

In the Office Action, the Examiner has rejected claims 17, 30, and 40 under 35 USC §103 as being unpatentable over Madour1, Madour2, Grabelsky and further in view of Shaked et al, U.S. Publication No. 2002/0007411, ('Shaked' hereinafter). This rejection is fully traversed below.

The Examiner admits that Madour1, Madour2, and Grabelsky fail to disclose a PDSN sending a disconnect acknowledgement message to the second AAA server, the disconnect acknowledgement message indicating that the PDSN has successfully disconnected the user. The Examiner seeks to cure the deficiencies of Madour with Shaked, citing paragraphs [0091] and [0092].

Applicant respectfully submits that Shaked fails to cure the deficiencies of Madour. Paragraphs [0091] and [0092] disclose disconnect events, but fail to disclose or suggest a PDSN sending a disconnect acknowledgement message indicating that the PDSN has successfully disconnected the user. Even if paragraph [0092] shows that AAA messages may report an event type such as disconnect, Applicant respectfully asserts that the cited references fail to disclose or suggest the releasing of resources associated with a PPP session when a disconnect request message is received. As such, Applicant respectfully submits that the combination of the cited references would fail to achieve the desired result. Accordingly,

Applicant respectfully asserts that claims 17, 30, and 40 are patentable over the cited references.

In the Office Action, the Examiner has rejected claims 18-20, and 41 under 35 USC §103 as being unpatentable over Madour1, Madour2, and Grabelsky further in view of Moller et al, U.S. Publication No. 2003/0028598, ('Moller' hereinafter). This rejection is fully traversed below.

The Examiner admits that Madour fails to disclose sending a disconnect non-acknowledgement message indicating that the PDSN is unable to disconnect the user. The Examiner seeks to cure the deficiencies of Madour with Moller, citing paragraphs [0090] and [0091].

Applicant respectfully submits that Moller fails to cure the deficiencies the deficiencies of Madour. While paragraph [0090] discloses a "NACK" message, Moller fails to disclose or suggest a PDSN sending a disconnect non-acknowledgement message indicating that the PDSN is unable to disconnect the user. As such, Applicant respectfully submits that Moller fails to cure the deficiencies of Madour. Accordingly, Applicant respectfully submits that claims 18, 20, and 41 are patentable over the cited references.

In view of the above, Applicants respectfully submit that the independent claims are patentable over the cited art. The dependent claims depend from one of the independent claims and are therefore patentable for at least the same reasons. However, the dependent claims recite additional limitations that further distinguish them from the cited references. The additional limitations recited in the independent claims or the dependent claims are not further discussed, as the above discussed limitations are clearly sufficient to distinguish the

claimed invention from the cited references. Thus, it is respectfully requested that the Examiner withdraw the rejection of the claims under 35 USC §103(a).

SUMMARY

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to Deposit Account No. 504480 (Order No. CISCP326).

Respectfully submitted,
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